DOCUMENT RESUME

ED 384 040 CS 214 892

AUTHOR Strasma, Kip
TITLE A Rhetoric for Hypertext Links: Connections to, within, and beyond Hypertext Nodes.
PUB DATE Mar 95
NOTE 8p.; Paper presented at the Annual Meeting of the Conference on College Composition and Communication (46th, Washington, DC, March 23-25, 1995).
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Computer Uses in Education; *Hypermedia; Rhetorical Theory
IDENTIFIERS *Computer Assisted Writing; *Links (Indexing); Technical Communication; Writing Contexts

ABSTRACT

The notion of links or connections among nodes or pieces of information sorted in a computer has changed throughout the brief history of hypertext. Originally, links were either thought to be semantic or functional in nature; that is, they were between meaningful information or they performed certain activities. Recently, links are beginning to be thought about in terms of their rhetorical implications, thus expanding and complicating the capabilities of links. It is only through a full history that a more complete understanding of linking can be achieved, particularly among professional and technical communicators who may make linking choices in everyday documents. How can a writer contribute to the already "authored" hypertext, for example? In 1987 Jeff Conklin provided hypertext with its most complete understanding of links since its original notions initiated by Vannevar Bush. Conklin cites three major categories of links: (1) referential; (2) organizational (hierarchical links); and (3) keyword (implicit connections through topic). Based on Conklin's definitions, these categories really make up two kinds of links: those that link explicitly and those that link implicitly. Referential and organizational links are explicit in that they are derived from content or structure of information, whereas keyword links are implicit because they derive from the topical elements of the information stored within a hypertext. Steven DeRose expands on Conklin's work; his taxonomy of links includes 12 different kinds. Paul Kahn argues that the subjective or interactive elements of the hypertext must also be given consideration. (Contains four figures.) (TB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 384 040

A Rhetoric for Hypertext Links:
Connections to, Within, and Beyond Hypertext Nodes

CCCC in Washington D. C.

1995

Kip Strasma

Illinois Central College

Abstract

Early researchers of hypertext focused on *semantic* and *functional* linking capabilities: those that could be derived from the content itself or designed as part of the program. This paper reviews that research and the growing *rhetorical* concerns that involve the interactive scope of hypertext.

CS214892

"PERMISSION TO REPRODUCE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY

K. Strasma

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

In the Winter issue of *YCQ*, 1995, Kolosşeus, Bauer, and Bernhardt argue for a change in terminiology that better reflects the activity of hypertext authoring; they call for a movement from composition to design (79). Such a change, effectively argued for in the article, shows the power of language in determining the guiding reality with which experience is organized. The assumption that guides their argument also informs my own argument, namely, that the language we use to frame some activity directs our attention toward specifice and selected aspects that make up the "reality."

When we turn our attention, then, toward hypertext and the growing collection of research devoted to it, this phomenon becomes evident. For example, the notion of links or connections among nodes or pieces of information sorted in a computer has changed throughout the brief history of hypertext. Origionally, links were either thought to be semantic or functional in nature; that is, they were between meaningful information or they performed certain activities. Recently, links are beginning to be thought about in terms of their rhetorical implications, thus, expanding and complicating the capabilities of links.

In this paper I report on key developments in this history of linking, for it is only through this history that a more complete understanding of linking can be achieveded, particularly among professional and technical communicators who may make linking choices in everyday documents. A full understanding of a rhetoric of linking is, therefore, necessary; professional and technical communicators need to know the what, how, and who of each link made in a hypertext document. The present study begins with a brief history of linking terminology and ends with a pedagogical tool that can be applied in a

technical writing classroom to help direct awareness when students are selecting appropriate links for their hypertexts.

I'd like to begin with some focusing questions:

- How do we design data structures for hypertext that facilitate coherent connections?
- What are the sorts of links to, from, and within texts and programs?
- By what means does a writer contribute to the "already"-authored hypertext?
- How do we combine the functional, semantic, and rhetorical aspects of hypertext?

Vannevar Bush made such questions possible when he described the essential feature of the memex as the ability to tie two items together. "[When] the user has two documents that [s]he wishes to join into a *trail* [s]he is building . . . , [s]he taps in the name of the link" (qtd. in Conklin 20). The idea of a "link" owes its meaning to metaphor, the joining of two whole elements as in two parts of a chain. Interestingly, since the work of Bush, several other metaphors have been used to describe this very phenomenon within or outside of the context of a hypertext program ; these include path, navigation, tree, chunks, clusters, stack, loop, ring, spike, and web. But even with these the idea of linking is implicit.

In 1987 Jeff Conklin provided hypertext with its most complete understanding of links since its original notions initiated by Bush and later Nelson in *Literary Machines*. Conklin cites three major categories of links:

- Referential–Nielson's "jump link" to another text location
- Organizational–hierarchical links

• Keyword–implicit connections through topic ("Finder")

Based upon his definitions, these categories really make up two kinds of links: those that link explicitly and those that link implicitly. Referential and organizational links are explicit in that they are derived from content or structure of information, whereas keyword links are implicit because they derive from the topical elements of the information stored within a hypertext. A connection can either exist within the text as a whole or without it to another text. Note that Conklin's idea of links accounts mostly for the text and its possible connections within and beyond the program–what I call the *semantic* level of the hypertext.

A later article from the November *1989 Hypertext Proceedings* extends Conklin's ideas by further developing them to their *functional* ends. Appropriately titled "Expanding the Notion Links, " Steven DeRose presents a taxonomy of links that includes twelve different kinds, although only two general categories. (See Figure 1 in your HO.) DeRose notes,

> The precise divisions could be expressed in different ways, but I suggest that this set of relationships is useful to the user as a framework for understanding the capabilities of a system, and to the designer when planning interfaces and data structures. (250)

A central concern for this taxonomy is the extent to which the links can be predicted and stored effectively within the computer program.

DeRose concentrates on what designers ought to keep in mind when they are creating hypertexts and what authors of hypertexts ought to know when working within an existing hypertext environment such as HyperCard, Toolbook, Story Space, etc. Together, Conklin and DeRose propose two

major kinds of links–implicit and explicit, intensional and extensional, which I've represented in Figure 2.

- Intra–within the work (content and function)
- Inter–to other texts (content and function)

These concerns are justified as hypertext completes its elite stage of development and moves toward massification. But now that more and more texts are available via hypertext and more and more programs are available for authoring hypertexts, the interactive role continues to attract attention, expecially the contextual or rhetorical aspects.

For instance, Paul Kahn's 1991 article, "Linking Together Books" (edited in Paul Delany and George Landow's *Hypermedia and Literary Studies)* suggests that we must also consider the subjective or interactive elements of the hypertext.

> The links of a body of literature can be viewed as connecting two classes of associations: objective and subjective. Objective associations are those which derive from the structure of the texts themselves, the text as data. Subjective associations are those which derive from an interpretive understanding of the material. (222)

This idea of *interpretation* ushers in the role of the reader, a notion that complicates earlier views because it devalues the authoring priviledges heretofore stressed in hypertext research. (See Paul Delany's *Hypertext.)* The addition of this perscpective adds a third category to those implied by Conklin and DeRose in Figure 2. (See Figure 3.)

- Intra–within the work (content, function, & rhetoric)

- Inter–to other texts (content, function, & rhetoric)
- Extra–beyond the program (content, function, & rhetoric)

Further, Kahn's idea of *interpretation* lends to a new way of understanding the relationship among the kinds and corresponding purposes of links to a broader understanding of a rhetoric of links. In Figure 4 in I've visuslized these three classifications borrowing the rhetoric model of "tagmemics:"

	Functional (DeRose)	*Semantic* (Conklin)	*Rhetorical* (Kahn)
Intratextual			
Intertextual			
Extratextual			

This configuration enables us to think of the same *functional* and *semantic* links in a *rhetorical* context.

[Example from Toni Morrison's *Beloved* in hypertext format on HyperCard.]

Figures for A Rhetoric for Hypertext Links:

Connections to, Within, and Beyond Hypertext Nodes

Kip Strasma, 1995

Figure 1: Adapted from "Expanding the notions of Links" by Steven DeRose

- Extensional–stored links
  - ~ Relational–1 to 1
  - ~ Inclusive–1 to many
- Intensional–not stored links
  - ~ Vocative–by name
  - ~ Retrieval–by search

Figure 2: Categories shared by Conklin and DeRose

- Intra–within the work (content and function)
- Inter–to other texts (content and function)

Figure 3: Kahn's third category of the reader

- Intra–within the work (content, function, & rhetoric)
- Inter–to other texts (content, function, & rhetoric)
- Extra–beyond the program (content, function, & rhetoric)

Figure 4: "Tagmemic" representation of hypertext linking possibilities

	Functional (DeRose)	*Semantic* (Conklin)	*Rhetorical* (Kahn)
Intratextual			
Intertextual			
Extratextual			